

CLAIMS

1. A zeolitic crystalline solid IM-9 with an X ray diffraction diagram including at least the peaks listed in the table below:

d _{hkl} (Å)	I/I ₀	2theta (degrees)
13.74	mw	6.425
12.74	VS	6.933
11.42	vw	7.735
9.36	w	9.442
8.30	m	10.653
6.94	vw	12.745
6.23	vw	14.204
6.06	vw	10.605
5.79	vw	15.291
5.47	vw	16.192
5.11	vw	17.337
4.76	mw	18.627
4.56	vw	19.452
4.52	vw	19.625
4.32	vw	20.541
4.25	w	20.887
4.17	vw	21.291
4.06	w	21.876
3.97	mw	22.377
3.79	w	23.449
3.65	w	24.365
3.57	w	24.917
3.44	w	25.874
3.39	vw	26.262
3.30	vw	26.995
3.19	vw	27.946
3.12	w	28.589
3.07	vw	29.067
2.98	vw	29.956
2.91	vw	30.698
2.84	vw	31.473
2.76	vw	32.413
2.55	vw	35.160
2.49	vw	36.040
2.44	vw	36.798
2.40	vw	37.441
2.38	vw	37.763
2.35	vw	28.266
2.13	vw	42.404

in which VS = very strong; S = strong; m = medium; mw = medium weak; w = weak; vw = medium weak, and having a chemical composition, expressed as the anhydrous base in terms of the moles of oxides, defined by the following general formula: $XO_2: mYO_2: pZ_2O_3: qR_{2/n}O: sF$ (I), in which R represents one or more

cation(s) with valency n, X represents one or more tetravalent element(s) other than germanium, Y represents germanium, Z represents at least one trivalent element and F is fluorine, m, p, q, s respectively representing the number of moles of YO_2 , Z_2O_3 , $\text{R}_{2/n}\text{O}$ and F and m is in the range 0.1 to 0.9, p is in the range 0 to 0.5, q and s are in the range 0.01 to 0.7, the ratio $\{(1+m)/p\}$ being 5 or more.

2. A crystalline solid IM-9 according to claim 1, in which X is silicon.
3. A crystalline solid IM-9 according to claim 1 or claim 2, in which Z is aluminium
4. A process for preparing a crystalline solid IM-9 in accordance with one of claims 1 to 3, in which an aqueous mixture comprising at least one source of at least one oxide XO_2 , optionally at least one source of an oxide YO_2 , optionally at least one source of at least one oxide Z_2O_3 , optionally at least one source of an oxide $\text{M}_{2/w}\text{O}$ and at least one organic nitrogen-containing cation R or at least one precursor of an organic nitrogen-containing cation or at least one decomposition product of an nitrogen-containing organic cation, then carrying out a hydrothermal treatment on said mixture until said crystalline solid IM-9 is formed.
5. A process for preparing a zeolitic crystalline solid IM-9 according to claim 4, in which the molar composition of the reaction mixture is such that:

$(\text{XO}_2 + \text{YO}_2)/\text{Z}_2\text{O}_3$: at least 5;

$\text{M}_{2/w}\text{O}/(\text{XO}_2 + \text{YO}_2)$: 0 to 3;

$\text{H}_2\text{O}/(\text{XO}_2 + \text{YO}_2)$: 1 to 50;

$\text{R}/(\text{XO}_2 + \text{YO}_2)$: 0.1 to 3;

$\text{F}/(\text{XO}_2 + \text{YO}_2)$: 0.1 to 3;

YO_2/XO_2 : 0 to 1;

$\text{L}_a\text{S}/\text{XO}_2$: 0 to 0.5.

6. A process for preparing a zeolitic crystalline solid IM-9 according to claim 4 or claim 5, in which R is a salt of (6R,10S)-6,10-dimethyl-5-azoniaspiro-[4,5]decane.
7. A process according to one of claims 4 to 6, in which seeds are added to the reaction mixture.
8. Use of a zeolitic crystalline solid IM-9 according to one of claims 1 to 3 or prepared according to one of claims 4 to 7, as an adsorbant.

Use of a zeolitic crystalline solid IM-9 according to one of claims 1 to 3 or prepared according to one of claims 4 to 7, as a catalyst.